

Model Processor

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Function Document

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I. GENIUS TOOLS Model Processor

The products in the GENIUS TOOLS Model Processor series are powerful programs for analyzing and editing model data. They are used to automatically standardize your existing Creo Parametric data. Automatic data revision replaces time-consuming and error-prone manual work, which is necessary, for example, when adapting existing CAD data to current company standards or when introducing a PDM system.

Model Processor products are optimized for processing large amounts of data and complex tasks. Large amounts of CAD data can be processed overnight without user intervention.

Complex tasks involved in data processing can be divided into individual tasks and grouped into task lists. You have over [130 tasks](#)^[6] at your disposal for editing a wide range of properties in your constructions, e.g.

- parameters, relations, layers,
- material, units, accuracy, tolerances,
- family tables (verify),
- views, image generation, appearance effects, and much more.

Batch processing simplifies the editing of large amounts of data, for which rules are created in Model Processor.

The GENIUS TOOLS Model Processor product range supports compliance with Creo Parametric model and work guidelines through a standardized implementation specified by the administrator. The individual products can be used in different situations.

These are the functions of the individual products:

- I. [GENIUS TOOLS Model Processor Report](#)^[6]: Basic component for analyzing model data
 - Program for Creo Parametric administrators
 - Quality analysis and report in batch processing using inventory data, as a prerequisite for revisions
 - Definition and testing of task lists
 - Automatic mass processing of models
- II. [GENIUS TOOLS Model Processor Rework](#)^[14]: Editing model data and saving the modified models
- III. [GENIUS TOOLS Model Processor User](#)^[15]: User component for executing task lists in Creo Parametric
 - Program for Creo Parametric users



- Revision of models undergoing the change process

IV. GENIUS TOOLS Model Processor Worker Extension: PDM component for executing task lists in the Windchill visualization process

The use of the products depends on the application and can be combined. Applications include model analysis and editing. Model analyses provide qualitative information about model settings in inventory data and are a prerequisite for estimating the effort involved in PDM implementations and for realistically assessing proposed CAD work guidelines. Model revisions are necessary when introducing PDM (inventory data, library adjustments, parameter maintenance, etc.), when implementing CAD work guidelines, as well as for improving model data quality.

	Model Processor			
	Report	Rework (includes Report)	User	Worker Extension
Create model analyses	✓	✓	—	✓
Execute model revisions	—	✓	—	✓
Generate task lists	✓	✓	—	—
Edit current Creo model (Execute predefined task lists)	✓	✓	✓	✓
Edit Creo models in automatically (Executing the predefined task lists)	—	✓	—	✓
Apply model revisions (Saving the modified model data)	—	✓	✓	✓
Windchill connection	—	—	—	✓



User	Report	Rework	User	Worker Extension
	CAD/PDM administrators, system administrators	CAD/PDM administrators, system administrators	CAD users	PDM/PLM administrators
Create Task Lists	✓	✓	—	—
Executing the predefined task lists	✓	✓	✓	✓
Licensing	floating	floating	floating, bound to Creo session	Node-locked

Product	Functions
Model Processor Report	Basic component for analyzing model data <ul style="list-style-type: none">– definition of task lists– batch processing for analyzing model information
Model Processor Rework	Editing model data and saving the modified models in batch mode. With the report license, this can be done without batch mode. <ul style="list-style-type: none">– contains Model Processor Report– models modified during batch processing can be saved
Model Processor User	User component for executing task lists in Creo Parametric <ul style="list-style-type: none">– task list processing embedded in Creo Parametric– requires Model Processor Report or Model Processor Rework for generating task lists
Model Processor Worker Extension	PDM component for executing task lists in the Windchill visualization process <ul style="list-style-type: none">– processing a task list in Windchill Worker– requires Model Processor Report or Model Processor Rework for generating task lists

Please note:

GENIUS TOOLS Model Processor has been revised and is now available with improved user guidance, diverse filters, and numerous additional functions.

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
user guidance, diverse filters, and numerous additional functions.

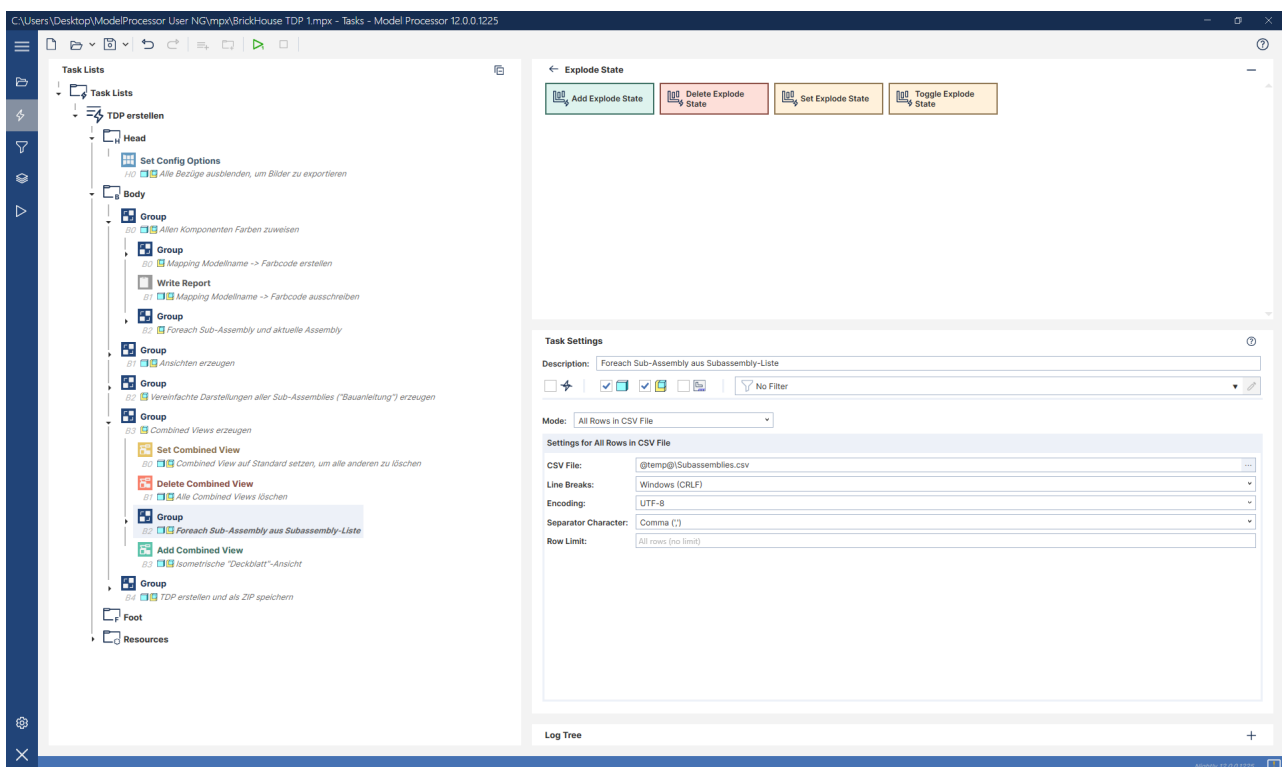


II. GENIUS TOOLS Model Processor Report

With GENIUS TOOLS Model Processor Report, you can analyze your model data and generate reports. It is the basic component of the Model Processor products.

The following functions are available:

- Generate reports on model data, e.g., start objects used, parameters, and material definitions, find double file names
- Checking the entire database, e.g., for regeneration and accessibility
- Creating an MPX file
- Batch mode: Batch processing for automatically loading models and writing model information to CSV files
- Creating and modifying task lists, see [Comparing tasks](#) 
- Model Processor Report finds and revises all dependent models for a current model
- Creation and saving of individual new models to which the corresponding tasks are applied



1. Tasks

Tasks are divided into categories. The following tasks are available to you:

**Model: Appearance**

Clear Appearance

Set Appearance from RGB

Model: Combined View

Add Combined View

Edit Default Combined View

Delete Combined View

Set Combined View

Edit Combined View

Model: Cross Section

Add Cross Section

Set Cross Section

Delete Cross Section

Update all Cross Sections

Drawing

Edit Drawing Note from Dictionary

Set Current Drawing Model

Remove All Annotations

Set Current Sheet Scale

Remove Unused Drawing Models

Show Drawing Format

Replace Drawing Format

Show Unbend Features on Views

Drawing Table

Add Table

Move Table

Delete Table

Environment

Close All Open Windows

Start MS-DOS Command

Erase Undisplayed Models

Start PowerShell Command

Load Config from User Variables

Start Python Script

Run JavaScript

Start Trail File

Save Config to User Variables

Transform XSLT

Set Config Options

Write to Creo Log

Set Environment Variable

Write to File

Set Working Directory

Write To Model Data

Start Mapkey

**Explode State**

Add Explode State	Set Explode State
Delete Explode State	Toggle Explode State

Export

Export 2D-PDF	Export JPG
Export 3MF	Export Neutral
Export ACIS (SAT)	Export Parasolid
Export Creo View	Export STEP
Export DWG	Export STL
Export DXF	Export TIFF
Export IGES	Export U3D-PDF

Family Table

Delete Family Table Instances	Unlock All Instances
Split up Family Table	Verify Family Table

Group

Group

Layer

Add Layer State	Group Layers
Add Layers	Rename Layers
Delete Layer State	Set Layer State
Delete Layers	Set Layer Status

Material

Add Material	Delete Material
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Model

Back up Model	Rename Feature
Cancel Feature Insert Position	Rename Model
Compute Mass	Replace Model

**Model**

Copy Model	Rescale Component Positions
Edit Common Name	Save Model
Embed Model	Set Feature Insert Position
Load Tolerance Table	Set Style
Regenerate Model	Start ModelCHECK
Remove Feature	Suppress Features

Model Properties

Set Accuracy	Set Tolerance
Set All Dimension Bounds	Set Unit System
Set Model Options (DTL)	

Model Processor

Request User Input	Set User Variable from Dictionary
Request Variable from File Chooser	Set User Variable from File
Reset Error State	Set User Variable from Model Data
Set Global User Variable	Set User Variable from URL
Set User Variable	Write to ModelProcessor Log

Parameter

Add Feature Parameter	Edit Parameter
Add Parameter	Edit Parameter from Dictionary
Change All Designation Flags	Rename Feature Parameter
Delete Feature Parameter	Rename Parameter
Delete Parameter	Set Access State of Parameter
Edit Feature Parameter	

Pro/PROGRAM

Delete Pro/PROGRAM Input Lines	Delete Pro/PROGRAM Lines
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Relation

Add Feature Relation	Edit Feature Relation
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**Relation**

Add Model Relation	Edit Model Relation
Delete Feature Relation	Set Relations Unit Sensitive
Delete Model Relation	

Report

List Report Definition	Report Layers
Report BOM Balloons	Report Materials
Report Combined Views	Report Model Data
Report Definition	Report Parameter Values
Report Dependencies	Report Pro/PROGRAM
Report Drawing Data	Report Relations
Report Family Table	Report Universal
Report Features	Write Report
Report File Data	

Simplified Representation

Create Simplified Representation	Rename Simplified Representation
Delete Simplified Representation	Set Simplified Representation
Edit Simplified Representation	

View

Add View	Rename View
Delete View	Set View

Windchill PDM

Add File to Workspace	Clear Workspace
Check In Model	Remove File from Workspace
Check Out Model	Set Server Active



2. Filter

Filters can be applied to all tasks to determine whether a task is executed. The following filters are available:

Combined View

Combined View Exists

Cross Section

Cross Section Exists

Drawing

Current Drawing Model

Formats on Sheets

Current Sheet Size

Is Multi Model Drawing

Dimension Text Exists in Drawing

Symbol Exists in Drawing

Format Name

Symbol Exists on Drawing

Environment

Creo Version

File Exists

DTL Option

Modell Exists

Environment Variable

Explode State

Assembly is Exploded

Explode State Exists

Family Table

Instance Exists

Solid is Instance

Solid is Generic

Ungenerated Instance Exists

Group

"And" Filter Group

"Or" Filter Group

Layer

Layer Exists

Layer has Status

**Layer**

Layer has Items

Layer state Exists

Material

Current Material Name

Model

Dimension Tolerance

Model is PDM Object

Feature Exists

Model is regeneratable

File Name

Model has circular references

File Path

Model Subtype

Geometry Checks Exists

Part is Skeleton Model

Is Insert Mode Active

Table on Drawing

Model is Modified

Unit System

Model Properties

Solid Accuracy

Solid has Tolerance

Parameter

Active Model Parameter Value

Parameter Type

Double Defined Parameters

Parameter Value

Material Parameter Value

Relation

Relation Exists

Simplified Representation

Simplified Representation Exists

Style State

Style State Exists

Utility

An Error Occured

User Variable



Utility

Expression

Linked Filter

View

Current View Name

View Exists

III. GENIUS TOOLS Model Processor Rework

GENIUS TOOLS Model Processor Rework extends the functionality of GENIUS TOOLS Model Processor Report: You can revise and clean up all your model data, e.g., for migrations and update projects or when changing the parameter or layer concept. In order to automate changes to models using batch processing (batch mode), you need Model Processor Rework.

All functions of GENIUS TOOLS Model Processor Report are available as well as the following additional functions:

- Batch mode with model data save function: Batch processing for revising and cleaning up the entire database
- Saving modified models
- Creating and saving new models in batch mode to which the corresponding tasks are applied
- Processing of a database from a PDM system (importing a generated file name list) or from the hard disk
- Merging of Creo databases

GENIUS TOOLS Model Processor Rework includes additional tasks that enable you to save modified models within batch processing:

Model

Save Model

Environment

Run JavaScript
Start Mapkey

Start MS-DOS Command
Start Trail File

Start Powershell Command
Start Python Script

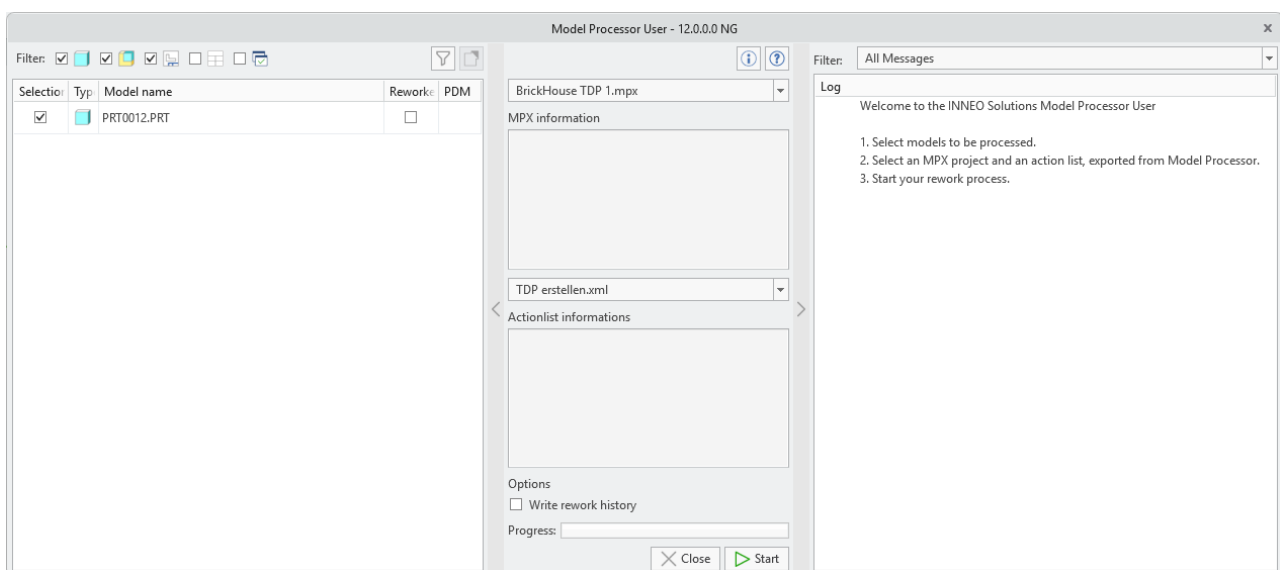
IV. GENIUS TOOLS Model Processor User

CAD users can use GENIUS TOOLS Model Processor User to execute task lists for data processing in Creo Parametric, e.g., to adapt catalog parts to company standards. This license gives you access to the defined task lists created with GENIUS TOOLS Model Processor Rework or Report.

The following functions are available:

- Revising model data in a Creo Parametric session
- Select a predefined task list and apply it to models. (One command can be added to the ribbon for each task list to be executed.)
- Trigger mode: automated processing of task lists when loading and saving Creo models

Task lists cannot be created or modified with GENIUS TOOLS Model Processor User. This serves quality assurance purposes and has the advantage that different versions of an task list cannot circulate within a department.



Advantages:

- More user-friendly interface and less complexity than Model Processor Rework and Report
- Revision of models that are undergoing change
- Model Processor User finds and revises all dependent models for a current model
- A wide variety of special functions specified by the administrator can be executed in the normal modeling or engineering process, e.g., updating the model settings to the company standard or a combined use of changes to Config.pro settings and “intelligent map keys” (standard map keys with variables).

V. GENIUS TOOLS Model Processor Worker Extension

While the previously presented versions of Model Processor are designed for engineers, Model Processor Worker Extension offers a way for the entire company to benefit from automation. Model Processor Worker Extension operates within the Windchill Visualization Process (also known as Windchill Worker). This is where task lists are processed on your Creo Parametric models. You can also export additional file formats from these models, such as STEP files, PDF files, and/or images rendered with KeyShot.

This allows you to link the generated data to the original object in Windchill while preserving your original model.

The following functions are available:

- Creating and modifying task lists
- Generating additional file formats from models, e.g., STEP files, PDF files, or images rendered with KeyShot



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IT-Campus 1
73479 Ellwangen
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